



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,941	06/23/2006	Torfinn Johnsen	07885.0093USWO	7107
23552 7590 10/07/2009 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903				
EXAMINER				
NGUYEN, SON T				
ART UNIT		PAPER NUMBER		
3643				
MAIL DATE		DELIVERY MODE		
10/07/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,941

Applicant(s)

JOHNSEN, TORFINN

Examiner

Son T. Nguyen

Art Unit

3643

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, 15, 18, 20, 22, 24, 26, 28, 30, 32 and 58-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-15, 18, 20, 22, 24, 26, 28, 30, 32, 58-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-848)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 3/10/09 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement, all of which is part of form PTO-1449. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1,7,8,18,58 are rejected under 35 U.S.C. 102(b) as being anticipated by Morgan (6029395 on form PTO-1449).**

For claims 1 & 58, Morgan teaches a film or membrane forming mixture (the mixture is a slurry sprayed over soil to form a film or membrane, col. 1, lines 60-61, col.

5,lines 65-67,col. 6,lines 1-30,col. 7,lines 16-24) for treating at least one of a soil surface or a soil mass, the mixture comprising a basic powder mixture of a water-soluble, dried and ground organic raw material (col. 2,lines 52-65,col. 3,lines 1-20); a thickening agent (col.3,lines 40-67); and pigment (col. 5,lines 1-10); the basic powder mixture including at least one component which has a sufficient antioxidizing effect to ensure that a formed film or membrane has an antifouling effect on the surroundings (col. 5,lines 1-19); wherein the film or membrane is formed on at least one of the soil surface or the soil mass at some distance down in the soil mass when the mixture is either spread over the soil surface or arranged in the soil mass (col. 1,lines 50-62,col. 6,lines 1-30).

For claim 7, Morgan teaches wherein the organic raw material is any material originating from the natural environment, the animal or plant kingdom, and that, in a dried and ground state, it contains fibres and adhesive compounds so that the material will function as a binder in the resulting film or membrane (col. 2,lines 52-65,col. 3,lines 10-25,40-67).

For claim 8, Morgan teaches wherein the raw organic material comprises substantially natural, industrial or household waste, the waste being organic or biological (col. 2,lines 55-65,col. 3,lines 10-25).

For claim 18, Morgan teaches wherein the basic powder mixture further comprises one or more substances selected from the group consisting of binders (col. 3,lines 40-67), preservatives, fertilizers (col. 3,lines 29-39), water stabilizers, mineral salts, pH regulators (col. 3,lines 35-39), antioxidants (col. 5,lines 9-11) and electrically conductive substances.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2,3,26,65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as applied to claims 1,18 above, and further in view of Mankiewicz (6946496).**

Morgan is silent about wherein the powder mixture is saturated with electrons to at least electrical neutrality; wherein the powder mixture is oversaturated with electrons and has an excess of negative electric charges; wherein the electrically conductive additives comprise one or more substances selected from the group consisting of readily soluble mineral salts, ash and/or carbon fibres, and that the electrically conductive substances are added in an amount of from 0.1 to 15, or 0.1 to 5 parts by weight of dry powder.

Mankiewicz teaches in the same field of endeavor of soil mixture as Morgan in which Mankiewicz employs electrons in his mixture for affecting the solubilities and availabilities of minerals at varying oxidation and reduction states, and for facilitating anaerobic processes modifying mineral availability as well as pollutant removal capacity, wherein the powder mixture is oversaturated with electrons and has an excess of negative electric charges (col. 7, lines 40-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to saturate or

oversaturate the mixture of Morgan with electrons to at least electrical neutrality or in excess of negative electric charges as taught by Mankiewicz in order to affect the solubilities and availabilities of minerals at varying oxidation and reduction states, and to facilitate anaerobic processes modifying mineral availability as well as pollutant removal capacity.

However, Morgan as modified by Mankiewicz is silent about the electrically conductive substances are added in an amount of from 0.1 to 15, or 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the electrically conductive substances of Morgan as modified by Mankiewicz be added in an amount of from 0.1 to 15, or 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

6. Claims 4,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as applied to claim 1 above, and further in view of Wake et al. (JP402195830).

Morgan is silent about wherein the basic powder mixture includes a growth medium for microalgae, and wherein the basic mixture contains from 0.1 to 10 parts by weight of microalgae.

Wake et al. teach in the same field of endeavor of soil mixture as Morgan in which Wake et al. employs microalgae in their mixture to promote germination (see Abstract). It would have been obvious to one having ordinary skill in the art at the time

the invention was made to employ microalgae as taught by Wake et al. in the mixture of Morgan in order to promote germination.

Morgan as modified by Wake et al. is silent about wherein the basic mixture contains from 0.1 to 10 parts by weight of microalgae. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the basic mixture of Morgan as modified by Wake et al. containing from 0.1 to 10 parts by weight of microalgae, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

7. Claims 5,14,15,20,22,24,28,30,32,59-64,66-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan (as above).

For claim 5, Morgan teaches a wide range of formulations with various ingredients in the mixture can be combined with different concentration (col. 4, lines 1-39). However, Morgan does not specifically state wherein the basic mixture comprises from 1 to 50 parts by weight of organic raw material, 0.1 to 60 parts by weight of thickening agent and from 2-50 parts by weight of pigment. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the basic mixture of Morgan comprises from 1 to 50 parts by weight of organic raw material, 0.1 to 60 parts by weight of thickening agent and from 2-50 parts by weight of pigment, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 14 & 60, Morgan teaches wherein the pigment is a dry powder having light characteristics for forming a film or membrane having a high degree of reflection,

the pigment comprising one or more substances selected from the group consisting of stone, lime, sand, clay, chalk, shells, white mineral pigments, titanium oxide, white plant dyes and white plant fibres (col. 3, lines 10-20, col. 5, lines 5-9). However, Morgan is silent about the pigments being added in an amount of from 0:1 to 25 parts by weight, or from 1 to 10 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pigments of Morgan being added in an amount of from 0:1 to 25 parts by weight, or from 1 to 10 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 15 & 61, Morgan teaches wherein the pigment is a dry powder having dark characteristics for forming a film or membrane having a low degree of reflection, the pigment comprising one or more substances selected from the group consisting of ash, coal, soot, carbon black, graphite, elementary carbon, ochre, bone, animal shells, marine shells, fish-scales, mineral pigments, plant dyes, plant pigments, and algae-based components (col. 3, lines 1-7, col. 5, lines 1-19). However, Morgan is silent about the pigments are added in an amount of from 0.1 to 25 parts by weight, or from 0.1 to 10 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pigments of Morgan be added in an amount of from 0.1 to 25 parts by weight, or from 0.1 to 10 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 20 & 62, Morgan teaches wherein the binders comprise organic glue and adhesive agents having a high protein content, the organic glue and adhesive agents being one or more substances selected from the group consisting of albumin glue, casein glue, animal glue, agar, alginic acid, ground acorn barnacles, latex and sap (col. 3, lines 40-67). However, Morgan is silent about the binders are added in an amount of from 0.1 to 15 parts by weight, or 0.1 to 5 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the binders of Morgan be added in an amount of from 0.1 to 15 parts by weight, or 0.1 to 5 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 22, Morgan teaches wherein the binders further comprise one or more fibres selected from the group consisting of cellulose fibre, plant fibre, textile fibre, animal fibre and reinforcing fibre (col. 2, lines 52-65, col. 3, lines 40-67). However, Morgan is silent about the fibre materials are added in an amount of from 0.5 to 30 parts by weight. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fibre materials of Morgan be added in an amount of from 0.5 to 30 parts by weight, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 24, 63, 64, Morgan teaches wherein the fertilizer agents comprise one or more fertilizers selected from the group consisting of animal manure, fish guano, guano, urea, inorganic nutrient salts and micronutrients (col. 3, lines 29-39). However, Morgan is silent about the fertilizer materials are added in an amount of from 0.1 to 20,

or 0.1. to 15, and more preferably 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fertilizer materials of Morgan be added in an amount of from 0.1 to 20, or 0.1. to 15, or 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 28,66,67, Morgan teaches wherein the water stabilizers comprise one or more substances selected from the group consisting of plant oils, mucilage, organic waxes and organic oils (col. 3,lines 51-52,col. 4,line 58). However, Morgan is silent about the water stabilizers are added in an amount of from 0.1 to 8.0, or from 0.1 to 25, or from 0.1 to 5 parts by weight of dry powder. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the water stabilizers of Morgan be added in an amount of from 0.1 to 8.0, or from 0.1 to 25, or from 0.1 to 5 parts by weight of dry powder, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 30 & 68 Morgan teaches wherein the pH regulators comprise one of more substances selected from the group consisting of sap, basic minerals, ash, and salts of the alkaline and alkaline earth metals (col. 3,lines 30-39). However, Morgan is silent about the pH regulator is added in an amount of from 0.1 to 50, or from 0.1 to 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pH regulator of Morgan be added in an amount of from

0.1 to 50, preferably from 0.1 to 10, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 32 & 69, Morgan is silent about wherein the pH regulators are added in such quantity that the resulting membrane or film has a pH that is greater than 5, or in the range of pH 5 to 10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the pH regulators of Morgan be added in such quantity that the resulting membrane or film has a pH that is greater than 5, or in the range of pH 5 to 10, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

8. Claims 9,10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as applied to claims 1,7,8 above, and further in view of Chiaffredo et al. (5441877).

For claim 9, Morgan is silent about wherein the waste is vegetable debris that is at least one of dried and ground seaweed, sea grass or kelp, and that 3 to 6 parts by weight thereof are used in the basic mixture.

Chiaffredo et al. teach in the same field of endeavor of soil mixture as Morgan in which Chiaffredo et al. employ seaweed in their mixture because seaweed is rich in organic matter for nutrients (col. 5, line 27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ seaweed as taught by Chiaffredo et al. in the mixture of Morgan because seaweed is rich in nutrients which will enhance plant growth.

Morgan as modified by Chiaffredo et al. is silent about 3 to 6 parts by weight of seaweed is used in the basic mixture. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the seaweed of Morgan as modified by Chiaffredo et al. be added 3 to 6 parts by weight of seaweed is used in the basic mixture, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claim 10, Morgan as modified by Chiaffredo et al. is silent about employing sea grass comprises at least one of the species *Spartina* or reeds, instead of seaweed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ sea grass instead of the seaweed of Morgan as modified by Chiaffredo et al., depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

9. Claims 11,12 & 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morgan as applied to claim 1 above, and further in view of Wallace et al. (4797145).

For claim 11, Morgan is silent about wherein the thickening agent is xanthan or xanthan gum, the xanthan or xanthan gum being added in an amount of from 0.1 to 6 parts by weight.

Wallace et al. teach in the same field of endeavor of soil mixture as Morgan in which Wallace et al. employ xanthan gum in their mixture for thickening agent (col. 5, lines 5-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ xanthan gum as taught by Wallace et al. for the

thickening agent in the mixture of Morgan, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

For claims 12 & 58, Morgan is silent about wherein the thickening agent comprises one or more alginates, the alginates being admixed and replacing at least part or all of the xanthan or xanthan gum.

In addition to the above, Wallace et al. also teach alginates admixed together or not with xanthan gum (col. 5, lines 5-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ alginates together with or without xanthan gum as taught by Wallace et al. for the thickening agent in the mixture of Morgan, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

Response to Arguments

10. Applicant's arguments filed 6/15/09 have been fully considered but they are not persuasive.

Applicant argued that Morgan does not disclose a film or membrane forming mixture that is comprised of a basic powder mixture, as required by claims 1 and 58. Instead, Morgan discloses a mulch mat that is formed in aqueous foam. The claimed invention is a powder mixture which, when dissolved in water or other polar solvents and administered to a soil surface, will penetrate a distance into the soil surface and set into a solid mechanically and chemically protective membrane.

Applicant is attempting to argue something that is not even claimed. As claimed, the invention is a film or membrane forming mixture and NOT a powder film or membrane forming mixture as appeared to be argued. The claimed language never indicates that the forming mixture is a powder mixture. Instead, the powder is part of the ingredient making up the forming mixture within the scope of "comprising". It is true that Morgan's mixture is a aqueous foam; however, in order to make this aqueous foam, the ingredient included is a basic powder mixture (such as flour from organic raw material, col. 3, lines 10-20, or any one of the examples) mixed with other ingredients to make an aqueous foam slurry to be spray onto the soil. This is no different from the claimed invention because the claimed invention includes basic powder mixture to which liquid is added so as to spray the mixture into the soil. If applicant intended to claim a powder film mixture, applicant must state so in the claimed invention; however, applicant has not done so because the preamble only states that the invention is a film or membrane forming mixture. In addition, Morgan's forming mixture is in slurry form, thus, when spray onto soil, it will penetrate a distance into the soil because such is the nature of slurry when sprayed.

Applicant argued that the remarkable effectiveness of the claimed invention is essential since it drives the costs down to a level where it becomes economically viable to employ the invention in a very large scale such as geo-engineering entire landscapes by changing the albedo. See enclosed Exhibit A which is a letter from members of the Congress of the United States.

The letter from members of the Congress of the United States has been acknowledged; however, it is non-persuasive. The letter merely states a general need for environmental studies in soil. If applicant wishes the Examiner to consider the letter from Congress, there has to be some sort of nexus between the claimed invention and the letter from Congress. In addition, the letter seems to indicate fertilizer, to which applicant clearly stated in his remark filed 6/15/09, page 11, that (quoting directly) "The claimed invention should thus not be considered as a fertilizer or mulch composition", thus, this is contrary to the letter from Congress, which focuses on fertilizer, hence, the nexus is not established. Moreover, merely stating that applicant's invention "is essential since it drives the costs down to a level where it becomes economically viable to employ the invention in a very large scale such as geo- engineering entire landscapes by changing the albedo" is not sufficient enough for secondary consideration. Finally, this letter could as well applied to Morgan's invention, since Morgan is concerned about the environment just as well as applicant.

Applicant argued that Morgan does not teach or suggest a basic powder mixture that includes at least one component having a sufficient antioxidising effect to ensure that a formed film or membrane has an antioxidising effect on the surroundings, as stipulated in claims 1 and 58. Instead, Morgan discloses the use of an anti-oxidising compound that may be added to aqueous foam in order to increase the UV-light resistance of the mulch mat itself.

The claimed language is broad because what is considered "sufficient"? In addition, even a numerical value is assigned to sufficient, it would still be obvious

depending on the soil type, the plant type grown on the soil, etc. Clearly, Morgan teaches antioxidizing effect because anti-oxidizing compound is added to the foam, and the foam is being sprayed onto the soil surface, thus, it will provide anti-oxidizing effect on the surroundings. Moreover, the basic powder mixture is not claimed as the final product; instead, the claimed invention claims as a final product, a film or membrane forming mixture.

Applicant argued that Morgan only discloses that the binder leaches into the top soil, there is no teaching or suggestion in Morgan that foam containing any antioxidant would penetrate into the area surrounding the mat.

Clearly, the mat of Morgan is in an aqueous slurry form, thus, it will penetrate into the soil. See col. 1, lines 54-63, col. 5, lines 65-67, col. 6, lines 1-30. Even if not disclosed, the foam eventually will penetrate into the soil due to its weight, gravity and forces of nature such as rain over time to dissolve the foam into the soil, since the foam is biodegradable.

Applicant argued that no prior art of the inventor's knowledge teaches the importance of destroying ozone and other oxidisers in the air just above the top soil.

The argued limitation is not claimed, thus, the argument is mooted. In addition, the claimed language states "at least one of the soil surface or the soil mass", hence, Morgan teaches at least one of the soil surface (when the foam is sprayed in slurry form) or the soil mass (once sprayed, the foam penetrates the soil mass over time due to its weight, gravity and forces of nature such as rain).

Applicant argued that Morgan does not disclose or suggest a film or membrane forming mixture wherein at least a portion of the film or membrane is formed at some distance down in the soil mass when the mixture is spread over the soil surface, arranged in the soil mass, or both, as specified in claim 58. Instead, and as stated previously, Morgan discloses a mulch mat having fibers that is disposed on the top surface of the soil. The claimed invention does not use fibres in the powder mixture since the aim of this membrane forming solution is to make the membrane form mainly into the soil, and not on-top of the soil.

Clearly from col. 1, lines 54-55, Morgan states "incorporated into the soil" and col. 5, lines 65-67, col. 6, lines 1-5, liquid foam applied to the surface of the soil, which means that the liquid foam will be formed at some distance down in the soil mass, for such is the nature of liquid. In addition, although the claimed invention does not use fibers as claimed in Morgan, Morgan still meets the open ended "comprising" terminology. As mentioned in the above, although Morgan teaches other ingredients, he does have flour as one of his ingredients, and flour is a powder.

Applicant argued that as stated previously, Morgan fails to disclose or suggest the film or membrane forming mixture that is comprised of a basic powder mixture and the basic powder mixture that includes at least one component having an antioxidising effect on the surroundings of claims 1 and 58. In the specific case of claim 58, Morgan also fails to teach or suggest a film or membrane formed by the mixture that is at some distance down in the soil. Additionally, the disclosure of artificial soil including a plurality of foam plastic

fragments of Mankiewicz does not address the cited shortcomings of Morgan. As a result, Morgan and Mankiewicz do not teach or suggest the claimed invention.

The response to applicant's argument regarding Morgan has been addressed in the above, thus, please see above. As for Mankiewicz, Mankiewicz was relied on for electrons in his mixture for affecting the solubilities and availabilities of minerals at varying oxidation and reduction states, and for facilitating anaerobic processes modifying mineral availability as well as pollutant removal capacity, wherein the powder mixture is oversaturated with electrons and has an excess of negative electric charges (col. 7, lines 40-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to saturate or oversaturate the mixture of Morgan with electrons to at least electrical neutrality or in excess of negative electric charges as taught by Mankiewicz in order to affect the solubilities and availabilities of minerals at varying oxidation and reduction states, and to facilitate anaerobic processes modifying mineral availability as well as pollutant removal capacity.

Applicant argued that as stated previously, Morgan fails to disclose or suggest the film or membrane forming mixture that is comprised of a basic powder mixture and the basic powder mixture that includes at least one component having an antioxidising effect on the surroundings of claims 1 and 58. In the specific case of claim 58, Morgan also fails to teach or suggest a film or membrane formed by the mixture that is at some distance down in the soil. Additionally, the disclosure of a biologically enriched substrate containing organic matter rich in colonies of Cyanophyceae and Bryophytes for rapid creation

of natural vegetation on bare terrain found in Chiaffredo et al. does not address the cited shortcomings of Morgan. As a result, Morgan and Chiaffredo et al. do not teach or suggest the claimed invention.

The response to applicant's argument regarding Morgan has been addressed in the above, thus, please see above. As for Chiaffredo et al., Chiaffredo et al. were relied on for seaweed in their mixture because seaweed is rich in organic matter for nutrients (col. 5, line 27). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ seaweed as taught by Chiaffredo et al. in the mixture of Morgan because seaweed is rich in nutrients which will enhance plant growth.

Applicant argued that as stated previously, Morgan fails to disclose or suggest the film or membrane forming mixture that is comprised of a basic powder mixture and the basic powder mixture that includes at least one component having an antioxidising effect on the surroundings of claims 1 and 58. In the specific case of claim 58, Morgan also fails to teach or suggest a film or membrane formed by the mixture that is at some distance down in the soil. Additionally, the disclosure of disclose a method for improving the physical properties of soil by the application of aqueous mixtures of agricultural polyelectrolytes and polysaccharides to the soil found in Wallace et al. does not address the cited shortcomings of Morgan. As a result, Morgan and Wallace et al. do not teach or suggest the claimed invention.

The response to applicant's argument regarding Morgan has been addressed in the above, thus, please see above. As for Wallace et al., Wallace et al. were relied on for xanthan gum in their mixture for thickening agent (col. 5, lines 5-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ xanthan gum as taught by Wallace et al. for the thickening agent in the mixture of Morgan, depending on the type of plant to which the mixture is applied and depending on how potent or not the user wishes the mixture to be.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son T. Nguyen/
Primary Examiner, Art Unit 3643